

REMARKS

In the Office Action of July 3, 2008, the Examiner rejected claims 12, 14, 15, 17, 20, 21 and 41-49 under 35 USC 112, first paragraph based upon the assertion by the Examiner that the application failed to comply with the written description requirement. The Examiner asserted that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner requested that the applicants particularly point out where the newly added claim language is supported in the original disclosure as filed. The Examiner also requested the applicants to review the new claims in accordance with the restriction/election of species mailed 31 January 2007.

The Examiner rejected independent claim 12 based on the following claim language:

“the oscillations comprising a series of oscillations operating at a first oscillation speed and a second, different, oscillation speed, in which the wash chamber is alternately operated at the first speed, then the second speed, then the first speed again and then the second speed again.”

This language is fully supported by the specification. Specifically, in paragraph 45 it is stated:

“In accordance with the methods and apparatuses consistent with the present invention, the mechanical action inside the automatic washer 30, 30' is enhanced in some embodiments by using alternating rotations through a fixed angle, with short pauses between each reversal, and with rotational speeds that vary periodically. The speed may vary from an average speed by a randomly changing amount or by an amount that varies according to some predetermined pattern.”

In paragraph 46 it is described that the speed may change every 0.2 seconds. It is well known in the art that a wash cycle lasts for several minutes, up to tens of minutes. In just 4 minutes, with a change in the speed every 0.2 seconds, there will be 1200 changes of oscillation speed. Paragraph 50 discusses a change of speed, with a mean speed of 70 rpm with a ± 20 rpm range for the speed.

Paragraph 50 also states that the range may extend above or below ± 20 rpm, and also that the rpm values may be varied in a bi-modal fashion. This "bi-modal fashion" is described in detail earlier in the specification with respect to a variation of the period lengths of the oscillations (non-elected invention) in paragraph 33, where it is stated: "the variation of the oscillations can be bi-modal, that is, limited to two selected period lengths, switching between these two lengths after every third or more period." Thus, the term "bi-modal" as used in the specification and claims is defined as a mode where the oscillation characteristic is switched back and forth between two different values for the characteristic during the wash cycle.

Paragraph 53 describes a version of the bi-modal fashion with a speed in the CCW direction having a mean rpm of 70 and a speed in the CW direction having a mean of 90 rpm. Specific speeds for each of the CCW and CW directions are picked randomly within a range. As paragraph 50 makes clear, the range may be larger or smaller than the stated example, and in fact the range could be zero, in which case a "random" selection for the CCW speed would always be 70 rpm and a "random" selection for the CW speed would always be 90 rpm. With the range increased above zero, the speeds for the CCW direction could vary from one oscillation to the next, within some selected range, which could be a rather small range, but with over 1000 speed changes every 4 minutes, it is certain that at least twice, an identical speed will occur for two oscillations in the CCW direction. The same would be true for rotations in the CW direction, and that there would be an alteration between these pairs of identical speeds. This leads to the result that there will be occasions where the wash chamber is alternately operated at a first speed, then a second speed, then the first speed again and then the second speed again. It may well be that there are other speeds between the first and second speeds or the second and first speeds, but

the claim does not preclude this from occurring. What is important is that the specification does disclose and support oscillating the wash chamber at alternating speeds, back and forth between two ranges, with those ranges being adjustable in size, and with random speeds being selected for each oscillation within a particular range, which will assure that there will be occurrences of oscillations exactly as defined in claim 12.

For the above reasons, applicants respectfully submit that claim 12 is fully supported by the original specification, and is patentably distinguishable over the art relied on by the Examiner as discussed in the previous amendment.

The Examiner rejected independent claim 43 based on the following claim language:

“the oscillations comprising a series of oscillations operating at a first rotational speed then a second rotational speed faster than the first rotational speed, then a third rotational speed slower than the second rotational speed, then a fourth rotational speed faster than the third rotational speed.”

As described above, the Examiner acknowledges that the specification discloses varying the rotational speeds of oscillation randomly during the wash cycle. The specification discloses alternating the speeds randomly within a selected speed range around a selected rpm mean (paragraph 50), and also alternating the speeds with a first speed, such as in a CCW direction, at a first, lower, speed and a second speed, such as in the CW direction, at a second, higher speed (paragraph 53). The lower speeds are not necessarily all the same as each other, nor are the higher speed necessarily all the same as each other. Nevertheless, what is disclosed is operating at a first speed, then at a higher speed, then a lower speed, then at a higher speed again. While there may be some consecutive oscillations that do not follow this particular pattern, paragraph 53 clearly discloses that the “average” wash cycle will follow this pattern. The specification clearly demonstrates that the inventors were in possession of the invention as defined in claim 43 at the time the application was filed.

For the above reasons, applicants respectfully submit that claim 43 is fully supported by the original specification, and is patentably distinguishable over the art relied on by the Examiner.

The Examiner rejected independent claim 47 based on the following claim language:

“the oscillations comprising a series of oscillation periods in which the wash chamber oscillates at a first rotational speed in a first oscillation period and then at a plurality of rotational speeds different from the first speed in subsequent periods of oscillations.”

The language of claim 47 merely requires that there be a first rotational speed in a first oscillation period, and then a plurality of different rotational speeds in subsequent periods of oscillations. This language is supported in the specification as noted above. As pointed out, and as the Examiner acknowledges, the specification discloses and supports randomly varying the speeds of oscillation during the wash cycle. The specification also clearly discloses that this occurs more than once during a wash cycle. Paragraph 46 discusses changing the speed of rotation every 0.2 seconds. In a wash cycle known and understood by persons of ordinary skill in the art, there will be thousands of speed changes during such a normal length wash cycle. With random speed changes, as disclosed by applicants, it will be assured that there will be a plurality of rotational speeds different from the first speed in subsequent periods of oscillations. Further, the specific embodiment of paragraph 53 will also assure that there will be a plurality of rotational speeds different from the first speed in subsequent periods of oscillations.

For the above reasons, applicants respectfully submit that claim 46 is fully supported by the original specification, and is patentably distinguishable over the art relied on by the Examiner.

The Examiner also requested applicants to be sure that the claims fall within the invention elected in response to the restriction requirement and species election. In the restriction requirement, the Examiner identified four groups of claims, in which there were four different characteristics being varied, A – oscillation times, B – oscillation speeds, c- length of pauses between oscillations, and D – angle of oscillations. In response, applicants elected group B, variation of oscillation speeds.

Each of the independent claims 12, 43 and 47 are directed to oscillations of varying speeds, and therefore all fall within elected group B.

The Examiner also required an election of one of groups V, VI, and VII. Applicants elected groups Vb (angle of rotation varies throughout the wash cycle), VIb (length of pause varies) and VIIb (speed of rotation varies randomly).

Each of the independent claims 12, 43 and 47 fall within sub-species VIIb in which the speed of rotation may vary randomly. In the embodiment of paragraph 53, when the range for the two rotation directions (the CCW direction and the CW direction) is reduced to zero, the speeds will alternate between a specific higher speed and a specific lower speed, even when the speeds for each direction are picked "randomly" within the range, therefore falling into the selected sub-species. However, for all other embodiments, which are also covered by the independent claims, when the range is non-zero, the speeds are disclosed as being selected randomly and therefore fall into the selected sub-species.

Therefore, applicants respectfully submit that all of the independent claims are fully supported by the specification in accordance with 35 USC 112, first paragraph, and that all of the independent claims, and their dependent claims fall into the selected species and sub-species that was initially elected for prosecution.

Applicant respectfully requests the Examiner to indicate that the claims fully comply with 35 USC 112, first paragraph and that they are all allowable over the art. The applicants also request that once allowed, the withdrawn claims depending on the allowed claims be re-introduced into the application and indicated as allowed as well.

Respectfully submitted,

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